



**CAMOSUN COLLEGE**  
**School of Arts & Science**  
**Department of Biology**

**BIOL-151-001A/B**  
**Human Physiology**  
**Summer 2020**

**COURSE OUTLINE**

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The course description is online @ <http://camosun.ca/learn/calendar/current/web/biol.html>

Ω Please note: This outline will not be kept indefinitely. It is recommended students keep this outline for their records, especially to assist in transfer credit to post-secondary institutions.

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**1. Instructor Information**

(a) Instructor	Laura Biggs
(b) Office hours	Weds 3:00-4:00, Thurs 12:30-1:30, Fri 11:00-12:00 or by appointment
(c) Location	Online on D2L (in Collaborate)
(d) Phone	n/a <b>Alternative:</b> n/a
(e) E-mail	BiggsL@camosun.bc.ca
(f) Website	<a href="http://online.camosun.ca">http://online.camosun.ca</a> (log in to D2L to access this course)

**2. Intended Learning Outcomes**

Upon completion of this course the student will be able to:

1. Describe the concept of homeostasis and explain how it operates in the major physiological systems of the human body.
2. Demonstrate an understanding of the functioning of the major physiological systems of the human body at the cellular and systemic levels.
3. Explain how the major physiological systems of the body interact to bring about biological behaviors.
4. Understand how physiological processes are altered in injury or disease.
5. Apply anatomical vocabulary in a physiological context.
6. Perform laboratory procedures relevant to physiology (observe physiological phenomena, measure physiological data, organize / record / analyze results of physiological experiments).
7. Utilize critical thinking to apply physiological concepts to specific problem solving situations.

**3. Required Materials**

(a) **Textbooks:**

Fundamentals of Human Anatomy and Physiology, 11<sup>th</sup> edition, Martini, Nath, & Bartholomew.  
(Note: This is the same text that is used for most BIOL 143 & 150 courses at Camosun.)

(b) **Lab Manual:**

Lab instructions and related assignments will be posted on D2L prior to each scheduled lab.

(c) **Lecture Resources:**

Lectures are based on PowerPoint slides and will be delivered online. The slides will be posted on the course D2L website, along with additional resources for review and activities to complete. Slides may be downloaded or printed to help follow the lectures.

#### 4. Course Content and Schedule\*

**Lectures:** Mondays & Wednesdays 9:30AM – 12:20PM

**Lab Section A:** Tuesdays & Thursdays 1:30PM – 4:20PM

**Lab Section B:** Tuesdays & Thursdays 9:30AM – 12:20PM

*\*Please see detailed weekly lecture/lab schedule on the last pages of this outline.*

#### 5. Basis of Student Assessment (Weighting)

(a) **Lecture**

Lecture Assignments & Activities	25%
Lecture Midterm Exam (Mon June 1)	15%
Lecture Final Exam (June 22-24, TBA)	25%

(b) **Lab**

Lab Assignments (1 per lab)	20%
Lab Final Exam (Thurs June 18)	15%

*Note: Exams in this course will be cumulative. More detailed information about assignments and exams will be given as the course proceeds.*

#### 6. Grading System

Standard Grading System (GPA)

Competency Based Grading System

#### 7. Recommended Materials to Assist Students to Succeed Throughout the Course

##### LEARNING SUPPORT AND SERVICES FOR STUDENTS

There are a variety of services available for students to assist them throughout their learning. This information is available in the College calendar, at Student Services, or the College website at [camosun.ca](http://camosun.ca).

## STUDENT CONDUCT POLICY

There is a Student Conduct Policy **which includes plagiarism**. It is the student's responsibility to become familiar with the content of this policy. The policy is available in each School Administration Office, at Student Services, and the College web site in the Policy Section.

### Plagiarism

Plagiarizing is appropriating the work or parts or passages of another's writing (including the ideas or language) and passing them off as the product of one's own mind or manual skill (see <http://camosun.ca/about/policies/education-academic/e-2-student-services-and-support/e-2.5.1.pdf>).

**Plagiarism will not be tolerated.** Plagiarism, **including the copying of any part of assignments**, is a serious offence and is considered to be academic misconduct. In some cases, the instructor may prefer an assignment to be written as a group. In such cases, handing in one assignment for the group will be acceptable. Otherwise, lecture and lab assignments handed in by individuals are expected to be individually prepared.

### Cheating

A student caught cheating on an exam will at minimum forfeit all credit for that exam. Cheating is a serious offence and is considered to be academic misconduct. **Cheating includes, but is not limited to, using unauthorized materials in a quiz/exam and providing information to another person regarding exam content.**

The consequences for cheating and plagiarism are outlined by Camosun College policies (see <http://camosun.ca/about/policies/education-academic/e-2-student-services-and-support/e-2.5.pdf>) and penalties may be severe.

### Attendance

Although this course is delivered in an online format, it is expected that you will "virtually" attend and participate in all lectures and labs. If you have to miss a lecture or lab, it is your responsibility to find out what you missed and get caught up. For the most part, each lecture and lab has a follow-up assignment or activity to be completed and submitted within three days, which must still be submitted even if you did not attend. Please contact the instructor and/or your classmates if you require assistance getting caught up.

### Missed Exams

**Without exception**, all lecture and lab exams must be written at the scheduled times. However, it is understood that emergency circumstances occur (e.g. severe illness or emergency in the immediate family); for such circumstances accommodation may be offered at the discretion of the instructor, provided the student: (a) notifies the instructor **in advance** of the exam (not after), and (b) provides documented evidence of the circumstance (i.e. medical documentation).

In the event of emergency circumstances, it is at the instructor's discretion whether to administer a make-up exam or adjust the weighting of the final exam to make up the missing marks. Note that work commitments or holiday travel are NOT considered emergency circumstances. Be sure not to make any travel plans for the end of the semester under the final exam schedules are finalized and posted.

### Assignments

There will be several lecture and lab assignments throughout the course. It is the student's responsibility to be informed of any work expected and the dates the work is due. Some course assignments will be group work; most course assignments will be individual work. When submitting your own individual assignment, be sure that it is your own work (keeping in mind student conduct requirements). This applies even if you are working with a study group! I do encourage you to study and work with other students, but

the work you submit must still be your own. For group assignments, each person in a group will receive the same mark on any group work. Please submit assignments in the format requested by the instructor. Incorrect formatting will result in late penalties and delayed grading.

### Late Penalties

All assignments must be handed in on or before the specified due date and time. If you experience technical difficulties in submitting assignments, please contact the instructor right away. Late assignments will be graded but marks equivalent to **10%** of the total value of the assignment will be deducted for each day past the deadline, including weekends. Late assignments will not be accepted once marked assignments have been returned to the class.

### Study Habits

Good (and regular!!) study habits are required to do well in this course. You should plan on spending several hours per week outside of scheduled class time for the completion of assignments and for general studying. Online study groups can help make this more fun (e.g. Zoom, Skype, Discord).

Lecture notes will be posted on D2L in point form. These should be used as a study guide, not as your sole source of information! You will need to write down additional notes for examples and explanations given during online lectures. It is also recommended to transcribe these notes into a study-friendly format after each lecture, incorporating additional information from your textbook. Study these notes before the next class to prepare yourself for new material, which will often build on previously covered material.

These course expectations and policies will be discussed during the first week of classes. If you have any further questions, please contact the instructor.

## 8. College Supports, Services and Policies



### Immediate, Urgent, or Emergency Support

If you or someone you know requires immediate, urgent, or emergency support (e.g. illness, injury, thoughts of suicide, sexual assault, etc.), **SEEK HELP**. Resource contacts @ <http://camosun.ca/about/mental-health/emergency.html> or <http://camosun.ca/services/sexual-violence/get-support.html#urgent>

### College Services

Camosun offers a variety of health and academic support services, including counselling, dental, disability resource centre, help centre, learning skills, sexual violence support & education, library, and writing centre. For more information on each of these services, visit the **STUDENT SERVICES** link on the College website at <http://camosun.ca/>

### College Policies

Camosun strives to provide clear, transparent, and easily accessible policies that exemplify the college's commitment to life-changing learning. It is the student's responsibility to become familiar with the content of College policies. Policies are available on the College website at <http://camosun.ca/about/policies/>. Education and academic policies include, but are not limited to, Academic Progress, Admission, Course Withdrawals, Standards for Awarding Credentials, Involuntary Health and Safety Leave of Absence, Prior Learning Assessment, Medical/Compassionate Withdrawal, Sexual Violence and Misconduct, Student Ancillary Fees, Student Appeals, Student Conduct, and Student Penalties and Fines.

## A. GRADING SYSTEMS <http://camosun.ca/about/policies/index.html>

The following two grading systems are used at Camosun College:

### 1. Standard Grading System (GPA)

Percentage	Grade	Description	Grade Point Equivalency
90-100	A+		9
85-89	A		8
80-84	A-		7
77-79	B+		6
73-76	B		5
70-72	B-		4
65-69	C+		3
60-64	C		2
50-59	D		1
0-49	F	Minimum level has not been achieved.	0

### 2. Competency Based Grading System (Non GPA)

This grading system is based on satisfactory acquisition of defined skills or successful completion of the course learning outcomes

Grade	Description
COM	The student has met the goals, criteria, or competencies established for this course, practicum or field placement.
DST	The student has met and exceeded, above and beyond expectation, the goals, criteria, or competencies established for this course, practicum or field placement.
NC	The student has not met the goals, criteria or competencies established for this course, practicum or field placement.

## B. Temporary Grades

Temporary grades are assigned for specific circumstances and will convert to a final grade according to the grading scheme being used in the course. See Grading Policy at <http://camosun.ca/about/policies/index.html> for information on conversion to final grades, and for additional information on student record and transcript notations.

Temporary Grade	Description
I	<i>Incomplete:</i> A temporary grade assigned when the requirements of a course have not yet been completed due to hardship or extenuating circumstances, such as illness or death in the family.
IP	<i>In progress:</i> A temporary grade assigned for courses that are designed to have an anticipated enrollment that extends beyond one term. No more than two IP grades will be assigned for the same course.
CW	<i>Compulsory Withdrawal:</i> A temporary grade assigned by a Dean when an instructor, after documenting the prescriptive strategies applied and consulting with peers, deems that a student is unsafe to self or others and must be removed from the lab, practicum, worksite, or field placement.

## Course Schedule for Biology 151-001A/B Summer 2020

Note: The following is a **tentative** schedule of lecture and lab activities. It is subject to change, and any changes to this schedule will be announced in online sessions and posted on D2L.

Week	Dates	Lecture Topics	Textbook Chapter(s)*	Lab Activity
1	May 4-5	<b>Course Introduction</b>  <b>Homeostasis</b> <ul style="list-style-type: none"> <li>• positive and negative feedback</li> </ul> <b>Cell Membranes and Transport</b> <ul style="list-style-type: none"> <li>• review of organelles</li> <li>• membrane structure</li> <li>• types of transport (including osmosis)</li> </ul>	1  3	Lab 1: Introduction to Physiology Labs
1	May 6-7	<b>Neural Physiology</b> <ul style="list-style-type: none"> <li>• membrane potentials</li> <li>• action potentials in neurons</li> <li>• neurotransmitters and synapses</li> <li>• neural patterns and circuits, reflexes</li> </ul>	12, 13, 14, 16	Lab 2: Movement of Molecules
2	May 11-12	<b>Neural Physiology (cont'd)</b>  <b>Senses</b> <ul style="list-style-type: none"> <li>• sensory transduction (general)</li> <li>• physiology of general senses</li> <li>• physiology of special senses</li> </ul>	15, 17	Lab 3: Nervous System
2	May 13-14	<b>Cardiovascular Physiology</b> <ul style="list-style-type: none"> <li>• electrical activities in the heart</li> <li>• cardiac cycle and controls</li> <li>• blood flow, blood pressure, and capillary exchange</li> </ul>	20, 21	Lab 4: Senses
3	May 18-19	<b>VICTORIA DAY – NO LECTURE</b>	n/a	<b>NO LAB</b>
3	May 20-21	<b>Cardiovascular Physiology (cont'd)</b>  <b>Respiratory System</b> <ul style="list-style-type: none"> <li>• ventilation and lung volumes</li> <li>• gas laws and diffusion</li> <li>• transport of gasses (O<sub>2</sub> / CO<sub>2</sub>)</li> </ul>	23	Lab 5: Cardiovascular System
4	May 25-26	<b>Respiration (cont'd)</b>  <b>Kidney &amp; Renal Physiology</b> <ul style="list-style-type: none"> <li>• filtration/reabsorption/secretion</li> <li>• micturition</li> </ul>	26	Lab 6: Respiratory System and Buffers

4	May 27-28	<b>Renal Physiology (cont'd)</b> <ul style="list-style-type: none"> <li>hormonal regulation of renal function</li> <li>fluid, pH, electrolyte balance</li> </ul>	27	Lab 7: Urinalysis
5	Jun 1-2	<b>LECTURE MIDTERM EXAM</b>  <b>Digestion</b> <ul style="list-style-type: none"> <li>chemical digestion (enzymes)</li> <li>absorption</li> <li>neural and hormonal controls</li> </ul>	24	Lab 8: Dive Reflex
5	Jun 3-4	<b>Metabolic Physiology</b> <ul style="list-style-type: none"> <li>glucose metabolism (aerobic and anaerobic)</li> <li>carbohydrate, protein, and lipid metabolism</li> <li>absorptive and postabsorptive states</li> </ul> <b>Muscular System</b> <ul style="list-style-type: none"> <li>action potentials in muscle cells</li> <li>muscle contraction</li> <li>muscle physiology (cell and whole muscle)</li> </ul>	25  10	Lab 9: Digestion
6	Jun 8-9	<b>Endocrine and Hormonal Regulation</b> <ul style="list-style-type: none"> <li>hormones as chemical signals</li> <li>mechanisms of hormone action</li> </ul> <b>Hematology</b> <ul style="list-style-type: none"> <li>hemopoiesis and erythrocyte cycle</li> <li>hemostasis</li> </ul>	18  19	Lab 10: Muscle Physiology
6	Jun 10-11	<b>Immunology</b> <ul style="list-style-type: none"> <li>non-specific and specific defenses</li> <li>response to exposure to antigen</li> <li>topics in immunology</li> </ul>	22	Lab 11: Hematology, Endocrine System, Immunology
7	Jun 15-16	<b>Reproduction</b> <ul style="list-style-type: none"> <li>oogenesis and spermatogenesis</li> <li>regulation of reproduction</li> <li>regulation of pregnancy, parturition, and lactation</li> </ul>	28,29	<b>Review for Lab Final</b>
7	Jun 17-18	<b>Course Wrap-Up</b> <ul style="list-style-type: none"> <li>Finish up remaining course material</li> <li>Review for Lecture Final Exam</li> </ul>	n/a	<b>LAB FINAL EXAM</b>
	Jun 22-24	<b>LECTURE FINAL EXAM (scheduled by College Registrar and posted on Camlink)</b>		

\*Textbook chapters noted here will be covered, at least in part. However, in most cases we will not be covering the whole chapter in Biology 151. Only the topics covered during class will be tested on exams.

**IMPORTANT DATES:**

May 11 – Drop with tuition refund deadline, June 5 – Last day to drop without academic penalty